

We Claim:

1. A device for vaporization of liquid, the device comprising:
a vaporizer component having a capillary network, a liquid receiving surface to receive liquid, and a vaporization area in which vapor is produced from the liquid;
a heat transfer component to convey heat to the vaporization component;
a porous insulation component capable of at least substantially shielding the liquid from the heat prior to vaporization; and
an ejection surface having one or more openings to release vapor at a velocity greater than zero.
2. The device of claim 1, wherein the capillary network of the vaporization component comprises a network of non-uniform struts.
3. The device of claim 1, wherein the capillary network of the vaporization component comprises a series of aligned channels.
4. The device of claim 1, further including one or more passageways leading away from the vaporization area for escape of dissolved gas.
5. The device of claim 1, having a concentric arrangement of the vaporizer component, heat transfer component and insulation component, and in which fluid flow is from a center area of the device to the outer periphery of the device.
6. The device of claim 5, wherein the heat transfer component is an internal heater proximal the outer periphery of the device.
7. The device of claim 1, having a concentric arrangement of the vaporizer component, heat transfer component and insulation component, wherein fluid flow is from outer periphery of the device to a center area of the device.

8. The device of claim 5, wherein the heat transfer component is an internal heater proximal the center area of the device.
9. The device of claim 1, further including a liquid treatment component capable of treating the liquid prior to vaporization.
10. The device of claim 9, wherein the liquid treatment component includes a fragrance compound, a disinfectant, an insecticide or an industrial chemical for release into the liquid.
11. The device of claim 1, further including a vapor treatment component capable of treating the vapor prior to release of the vapor.
12. The device of claim 1, further including a liquid pretreatment component capable of removing constituents from, adding constituents to or reacting with constituents in the liquid prior to vaporization.
13. The device of claim 1, further including an internal combustion engine or microturbine arranged to receive vapor output from the vaporizer component.
14. A capillary pump for vaporizing liquid, comprising:
 - a vaporization layer having a capillary network, a liquid receiving surface to receive liquid, and a vaporization area in which vapor is produced from the liquid;
 - an ejection layer having one or more openings to permit release of vapor, the ejection layer including a porous or channeled heat transfer portion proximal toward the vaporization layer to convey heat toward the vaporization layer;
 - a vapor collection component for controlled release of vapor;
 - a porous insulation layer to at least substantially shield the liquid from the heat prior to the liquid entering the vaporization layer; and
 - a seal at least partially surrounding the vaporization pump to block fluid leakage and allow vapor pressure to increase.

15. The pump of claim 14 further comprising a porous preheat layer to raise the temperature of the liquid prior to the liquid entering the vaporization layer.
16. The pump of claim 14 further including a liquid treatment component positioned prior to the liquid reaching the vaporizer component.
17. The pump of claim 16 wherein the liquid treatment component includes a fragrance compound, a disinfectant, an insecticide or an industrial chemical for release into the liquid.
18. The pump of claim 14 further including an internal combustion engine or microturbine to receive vapor released by the pump.
19. A pump system for vaporization of liquid, the system comprising:
one or more devices of claim 1, and
at least one liquid supply source in fluidic communication with the one or more devices.
20. The pump system of claim 19, including at least two devices of claim 1 arranged in an array.
21. The pump system of claim 19, further comprising a controller in communication with each device and capable of individually controlling the heating of each device.
22. The pump system of claim 19, wherein a separate supply source is provided to feed liquid to each device.
23. The pump system of claim 19, wherein a common supply source is provided to feed the liquid into each device.
24. The pump system of claim 19, further including a heater component capable of melting a solid feed to form the liquid in the supply source.

25. The pump system of claim 19, further including a common vapor chamber to receive vapor released from each device and one or more orifices in the common vapor chamber providing vapor release.

26. A device for vaporization of liquid, the device comprising:
a vaporizer component having a capillary network, a liquid receiving surface to receive liquid, and a vaporization area in which vapor is produced from the liquid;
a heat transfer component to convey heat to the vaporization component;
an ejection surface having one or more openings to release vapor at a velocity greater than zero; and
a control device to control the heat conveyed to the vaporization component, wherein the rate of vapor output is thereby controlled.

27. The device of claim 26, wherein the capillary network of the vaporization component comprises a network of struts.

28. The device of claim 26, wherein the capillary network of the vaporization component comprises a series of aligned channels.

29. The device of claim 26, further including one or more passageways leading away from the vaporization area for escape of dissolved gas.